

Welcome to the Cardiovascular Health Nova Scotia (CVHNS) quarterly e-mail bulletin. The Bulletin has been created to share information about the program's activities, related cardiovascular health initiatives, and ideas from around the province.

## Improving Door to ECG and Door to Needle Times Collaboratively!

*Safer HealthCare Now!* in collaboration with Cardiovascular Health Nova Scotia offered a virtual collaborative learning experience to health care professionals in Atlantic Canada from October 2009 to March 2010. The goal was to improve care processes so as to meet or improve CCORT benchmarks<sup>1</sup> for door to ECG (< 10 min) and door to needle times (<30 min). Participation in the collaborative was via web based technology which allowed staff the convenience of participating from their site of employment. Education sessions were offered by experts throughout the collaborative to share a vision for ideal care and specific changes needed to achieve the ideal.

Participants were introduced to the PDSA<sup>2</sup> (Plan, Do, Study, Act) quality improvement process. All teams submitted baseline data, found specific areas for improvement, and worked through the steps needed to test, adapt and implement the changes. A variety of improvement projects and ideas were shared throughout the collaborative. The following is a snapshot of improvement projects that were suggested to reach the benchmarks.

1. **Synchronize time** on equipment, clocks and computers so as to accurately determine the time of arrival, time of ECG and the time fibrinolysis was given. Have the switchboard make an announcement twice daily about synchronizing clocks/watches to hospital computers. Set a policy that hospital computers are to be used as the source to record times or make the Emergency department (ED) ward clerk responsible for synchronizing equipment daily.
2. **Change policies related to who performs the ECG.** Instead of focusing on who should perform the ECG (nurse, paramedic or ECG technician) focus on who can perform the ECG in the timeliest manner<sup>3</sup>.
3. **Reduce the time it takes to complete and interpret an ECG.** Call a chest pain code (STAT ECG) for simultaneous notification to be sent to people who need to act fast in the ED. Keep the patient on the ambulance stretcher until the ECG is completed. Purchase a bedside ECG machine, dedicate a bed for STAT ECGs and have the physician interpret, sign and date the ECG once completed.

4. **Offer more training on Triage Scoring<sup>1</sup>.** Ensure initial and ongoing Canadian Triage Acuity Scale (CTAS) training for staff and locums. Have a senior nurse on triage. Educate staff that some patients will present with atypical pain.
5. **Reduce time it takes for offsite physician to get to ED in rural sites.** Have the ambulance notify hospital staff in advance that a chest pain patient is being transported in so that the physician can be called in or called down to the emergency department. If the patient is a walk in, call the physician immediately if acute myocardial infarction is suspected.
6. **Change in policy that cardiologist/internist must over read ECG.** Consider education/mentor programs to increase confidence in diagnosis of STEMI. Use algorithms or checklists for STEMI treatment such as CVHNS' *Nova Scotia Algorithm for Emergency Care of ACS*.
7. **Educate/remind staff of importance of meeting benchmarks.** Put up posters (such as CVHNS *Time is Muscle* poster). Educate staff during orientation. Have benchmarks on the standing order sets. Provide regular feedback to staff on performance.
8. **Have thrombolytic kits available in the ED.** Include all materials needed for lytic administration in the kit as well as protocols and order sets.

## Reference:

<sup>1</sup> Tu JV, Khalid L, Donovan L, Ko D. Indicators of quality of care for patients with acute myocardial infarction. *CMAJ* 2008;179(9): 909-15.

<sup>2</sup> PDSA cycle information retrieved from: <http://www.ihl.org/IHI/Topics/Improvement/ImprovementMethods/HowToImprove/June 30, 2010>.

<sup>3</sup> Lambert L, Brown K, Segal E. et al. Association between timeliness of reperfusion therapy and clinical outcomes in ST-elevation myocardial infarction. *JAMA* 2010; 303(21): 2148-2155.

<sup>4</sup> Atzema C, Austin P, TU J, Schull M. Emergency department triage of acute myocardial infarction patients and the effect on outcomes. *Ann Emerg Med*. 2009; 53(6):736-748.

## Learning Opportunities

### Caring for Your Patients Post PCI

October 4, 2010. Halifax, NS. Via telehealth to all districts. [www.crnns.ca](http://www.crnns.ca).

### Management of Hypertension: Basics and Beyond

October 15, 2010. Halifax, NS. Via telehealth to all districts. [www.crnns.ca](http://www.crnns.ca).

### Canadian Cardiovascular Congress

October 23-27, 2010. Montreal, QC.  
[www.cardiocongress.org](http://www.cardiocongress.org)

### Stroke Consortium

October 22-24, 2010. Montreal, QC.  
[www.strokeconsortium.ca](http://www.strokeconsortium.ca)



## CVHNS News

### Dysphagia Project Update

A provincial needs assessment in 2006 identified dysphagia as an area requiring interdisciplinary knowledge and skills training. In 2007 Cardiovascular Health Nova Scotia, Heart and Stroke Foundation of Nova Scotia and Nova Scotia Hearing and Speech Centres partnered to provide facilitation skills and dysphagia train-the-trainer workshops to provincial dysphagia teams.

In 2009 a Project Management Team was formed to follow up on the dysphagia training that was implemented in November 2007. To identify challenges, successes and current activities, two surveys were implemented and analyzed. The

surveys were distributed to the original trainees that included SLPs, Dietitians and Nurses. Follow-up telephone consultations were held for more in-depth discussion with the teams.

Survey data indicated that 28 training sessions were held since 2007. The main findings were that ongoing training is needed due to staff turnover and to build on existing knowledge/skills. Teams reported that the stroke swallow screen is used some of the time while the Nursing Dysphagia Assessment Protocol is used little to none of the time. A number of barriers were also identified such as lack of clarity over roles and responsibilities and availability of resources and time for training.

Some ideas to improve uptake of the tools were suggested. These included: review of the screen and protocol during orientation; identification of local champions; targeted training for new nurses; and development of e-learning modules that include case studies, pre- and post-tests, and a certificate of completion. The Project Management Team is now developing a strategy to implement the suggested course of action.

The issue of identification and management of dysphagia is significant for stroke patients, and the project goals will continue to focus on improving care through the implementation of best practice approaches.

For more information, contact Corinne Corning, Stroke Consultant, [corinne.corning@cdha.nshealth.ca](mailto:corinne.corning@cdha.nshealth.ca)

### **Emergency Department Tools Released**

Cardiovascular Health Nova Scotia is pleased to announce the release of two new tools for use in emergency departments around the province.



These tools are based on the *Nova Scotia Guidelines for Acute Coronary Syndromes (2008)* and have been developed based on input from health care professionals in emergency departments across the province.

The 8.5"x11" *Algorithm and Checklist Tool* is laminated and on a ring and contains a smaller version of the *Nova Scotia Algorithm for Emergency Care of Acute Coronary Syndromes* as well as two checklists (one for STEMI and one for NSTEMI) that can be used by emergency department staff. The 7"x7" *Quick Reference Tool* was developed to assist in the care of STEMI and NSTEMI patients who present to the emergency department and provides information on critical pathways, medications as well as risk stratification for cardiac catheterization.

The tools have been distributed to emergency departments in each district health authority. If you have any feedback on the tools, contact us by email at [cvhns@cdha.nshealth.ca](mailto:cvhns@cdha.nshealth.ca).

### **IHI Expedition-Preventing Heart Failure Readmissions**

CVHNS provided funding to four teams in the province to participate in an Institute for Healthcare Improvement Expedition. The aim of the expedition was to enable participants to help heart failure patients care for themselves after a hospital discharge in ways that can both improve the patient and family experience and reduce readmissions.

The Expedition consisted of five education sessions. Participants were provided the opportunity to interact with each other during the session using Webex technology and were enrolled in a list-serve to share experiences outside of the

sessions. Prior to each session, participants were provided with reading and pre-work so that they could practice the theory that was discussed each week.

Participants were taught two new patient teaching techniques: Ask Me 3™ and Teach Back. The premise of these two techniques is for health care professionals to focus on what the patient needs to know versus what is nice to know and to ensure they have a good understanding of the key points before discharge from hospital.

The Ask Me 3™ program suggests that all patients should be taught to ask 3 simple questions in every health care encounter: What is my main problem? What do I need to do? And why is it important for me to do this? To learn more about the program visit [www.npsf.org/askme3/](http://www.npsf.org/askme3/).

Teach Back can be used to confirm that a patient understands medical instructions. To prepare, the health care provider (HCP) should identify the few vital pieces of information the patient needs at discharge and design patient education around them. The HCP should set up questions and answers for teach back and ask the individual to explain in his/her own words what was understood. The health care provider is encouraged to use this method rather than asking for yes/no confirmation of comprehension. Examples of a few good teach back questions for heart failure patients:

- o What is the name of your water pill?
- o What weight gain should you report to your doctor?
- o What foods should you avoid?
- o What symptoms should you report to your doctor?

To learn more about the Teach Back and other

techniques obtain a copy of Nielsen GA, Rutherford P, Taylor J. *How-to Guide: Creating an Ideal Transition Home*. Cambridge, MA: Institute for Healthcare Improvement; 2009. Available at <http://www.ihl.org>.

To order a copy of a DVD on the Teach Back technique (\$30 US funds) contact Linda Razo at [rasolp@crstlukes.com](mailto:rasolp@crstlukes.com) or 319-369-7941.

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### ***Improving Glycemic Control at Annapolis Valley Health***

The Nova Scotia Guidelines for Acute Coronary Syndromes 2008 recommend tight glycemic control in all NSTEMI and STEMI patients who present with hyperglycemia (random BG >11mmol/L or fasting BG >7 mmol/L.). It is suggested in the guidelines that during the first 48 hours of admission, there should be a low threshold for use of insulin to maintain blood glucose between 7-10 mmol/L and that after 48 hours, standard diabetes management is recommended including oral antihyperglycemic agents and/or insulin as appropriate. Caution is recommended in the use of thiazolidinediones in patients with cardiovascular disease.

The Valley Regional Hospital (VRH) medical staff were inspired by a telehealth session offered by Dr. Mary Catherine MacSween from Moncton Hospital who reported that they were able to initiate a subcutaneous insulin (basal/bolus) clinical order set in their institution which resulted in better glycemic control in their patients. VRH developed their own order sets to manage glucose proactively using basal/bolus and correction insulin and had them reviewed by key stakeholders before being approved by the local District Medicine Advisory Committee.

In order to ensure that staff was prepared to adopt the new order set, multiple educational opportunities were provided. A diabetes blitz was held, an education package was developed for

nursing staff along with a diabetes survival kit and insulin tutorial which was made available on the local intranet site.

The insulin order sets were trialed first on the surgical unit and altered to make them more user friendly. The order set was then rolled out to the rest of the units in the Valley Regional and the remaining facilities in the district. From this experience, two key lessons have been learned. Consider rolling out the new insulin order sets on a unit with more experience with diabetes first, such as a medical unit. Ensure that your hospital pharmacists and nurse educators are actively involved in the project from the beginning stages. For more information, contact [dmacmillan@avdha.nshealth.ca](mailto:dmacmillan@avdha.nshealth.ca).

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## **Helpful Resources**

### **Self Care Management in Persons with Heart Failure**

Reigel B, Moser D, Anker S, et al. Promoting Self-Care in Persons with Heart Failure: A Scientific Statement from the American Heart Association. *Circulation*. 2009; 120:1141-1163.

### **2010 Heart Failure Guidelines**

Howlett JG, McKelvie RS, Costigan J, et al. The 2010 Canadian Cardiovascular Society guidelines for the diagnosis and management of heart failure update: Heart failure in ethnic minority populations, heart failure and pregnancy, disease management, and quality improvement/assurance programs. *Can J Cardiol*. 2010; 26(4):185-202.

**Physical Activity Guidelines and Measurement**  
Public Health Agency of Canada recently funded a review of current scientific evidence underlying physical activity guidelines and measurement. To

access the papers published in the International Journal of Behavioural Nutrition and Physical Exercise visit [www.ijbnpa.org](http://www.ijbnpa.org).

### **Hypertension in Canada Report**

The first national hypertension report from the Canadian Chronic Disease Surveillance System has just been released and is available at <http://phac-aspc.gc.ca/cd-mc/cvd-mcv/ccdss-snsmc-2010/index-eng.php>.

### **Quality Improvement Resource Room—Acute Coronary Syndromes**

The Society of Hospital Medicine has a quality improvement resource room with special sections on Acute Coronary Syndromes, Heart Failure, Stroke and Glycemic Control. Visit [www.hospitalmedicine.org](http://www.hospitalmedicine.org).

### **Stroke Continence Education and Support**

For free online education modules around continence following stroke, visit [www.strokecontinencecare.ca](http://www.strokecontinencecare.ca) or [www.canadiancontinence.ca](http://www.canadiancontinence.ca).

### **AHA Clinician's Guide to Cardiopulmonary Exercise Testing**

Balada GJ, Arena R, Sietsema K, et al. Clinician's guide to cardiopulmonary exercise testing in adults. A scientific statement from the American Heart Association, *circulation* 2010; 122: 191-225.

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## **Innovative Ideas**

### **AVH Stroke of Insight Retreat**

The AVDHA Stroke Team gathered at the Old Orchard Inn for the "Stroke of Insight Retreat" on March 25<sup>th</sup>. The creation of a mandala was high on the list of activities. The word "mandala" is from the Indian language of Sanskrit. Loosely translated to

mean "circle," a mandala is far more than a simple shape. It represents wholeness, and can be seen as a model for the organizational structure of life itself.

The overall goal of the day included "learning more about the brain and more about each other, putting our brains together to create an effective stroke team".

The team reviewed the functions of the parts of the brain through discussion and a variety of fun activities. Some of the activities included balancing games, exploring personality styles, creating with clay and working on visual art to represent the discussion and experience. The art work was then placed on the wooden frame of a brain, with the final product being a very beautiful, visual representation of the work that the team did together during the retreat.

The Stroke Retreat provided a fun, activity-filled time for stroke team members to learn together in a relaxed setting. The morning was rounded off by two stroke survivors who generously talked about their stroke experience and how the stroke team aided them in their recovery.

"I felt privileged to be a part of this very special team retreat." ~ Corinne Corning, Stroke Consultant, CVHNS

#### **Model of Care in South Shore Health**

The Board of Directors has presented The Cardiovascular Health Unit, at South Shore Regional Hospital, with an Outstanding Quality Initiative Award. The award is presented to teams within South Shore Health, who have worked together on quality improvement projects that resulted in positive change and that are aligned with the priorities of the district.



The Cardiovascular Health Unit has been developed using the Models of Care framework. The model of care framework utilizes available resources to provide and improve the quality of patient care. The 19 bed Medical unit was officially restructured on April 7<sup>th</sup>, 2009 as the Cardiovascular Health Unit. This area also acts as the Stroke Unit for the district. Patients admitted to this unit mostly have a diagnosis of cardiovascular or cerebrovascular disease and are cared for by a mix of professional nurses, allied health and assistive personnel. The nursing staff mixture is of Registered Nurses, Licensed Practical Nurses and Acute Care Aids. Changes that have been made to incorporate the Model of Care have included the introduction of acute care aides into the staffing mix, the development of a stroke program and the implementation of a new model of medication delivery. The staff on the unit include the patients and their families in the development of care plans, and are continuing to work as part of an inter-professional team to manage the care of the patients and families. By way of case management, patient care is divided and provided by the professional who is most appropriate for the role. The professional roles of the team members have expanded to meet the needs of the patients and further improve the effectiveness of the inter-professional collaboration. For more information, contact Schelene Swinemar [sswinemar@ssdha.nshealth.ca](mailto:sswinemar@ssdha.nshealth.ca).

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